PATENT CLAIMS

1. A continuous process to oxychlorinate olefins and aromatics, comprising the conversion of olefins and aromatics as component (a) with oxygen and hydrogen chloride as component (b) in the presence of a solid cuprous/cupric salt catalyst in a reactor, characterized in that components (a) and (b) are fed separately from each other in spatial terms into reaction zones and regeneration zones of the reactor, where the reaction zone shows a higher concentration of the catalyst in its oxidized form at the solids entry point than at the solids exit point, and the regeneration zone shows a higher concentration of the catalyst in its reduced form at the solids entry point than at its solids exit point, and where component (a) is fed into the reaction zones and component (b) is fed into the regeneration zones.
2. A process according to claim 1, characterized in that component (b) is additionally fed into the reaction zone.
3. A process according to claims 1 or 2, characterized in that component (a) is additionally fed into the regeneration zone.
4. A process according to claims 1 through 3, characterized in that cupric chloride is used as the catalyst.
5. A process according to claim 4, characterized in that the catalyst at the solids entry point of the reaction zone is 0.1 to 0.5 mol $CuCl_2$/kg cat; 0 to 0.1 mol CuCl/kg cat and 0 to 0.1 mol CuO/kg cat.
6. A process according to claim 5, characterized in that the catalyst is 0.35 mol $CuCl_2$/kg cat; 0.02 mol CuCl/kg cat and 0.02 mol CuO/kg cat.
7. A process according to claims 1 through 4, characterized in that the catalyst at the solids exit point of the reaction zone is 0.1 to 0.2 mol $CuCl_2$/kg cat; 0.2 to 0.3 mol CuCl/kg cat and 0 to 0.1 mol CuO/kg cat.
8. A process according to claim 7, characterized in that the catalyst is 0.1 mol $CuCl_2$/kg cat; 0.3 mol CuCl/kg cat and 0 mol CuO/kg cat.
9. A process according to claims 1 through 4, characterized in that the catalyst at the solids entry point of the regeneration zone is 0.1 to 0.2 mol $CuCl_2$/kg cat; 0.2 to 0.3 mol CuCl/kg cat; 0 to 0.1 mol CuO/kg cat.
10. A process according to claim 9, characterized in that the catalyst is 0.1 mol $CuCl_2$/kg cat; 0.3 mol CuCl/kg cat and 0 mol CuO/kg cat.
11. A process according to claims 1 through 4, characterized in that the catalyst at the solids exit point is 0.2 to 0.5 mol $CuCl_2$/kg cat; 0 to 0.1 mol CuCl/kg cat and 0 to 0.1 mol CuO/kg cat.
12. A process according to claim 11, characterized in that the catalyst is 0.4 mol $CuCl_2$/ kg cat; 0.05 mol CuCl/kg cat and 0.05 mol CuO/kg cat.
13. A process according to claim 1, characterized in that the catalyst circulation rate is 1 to 60 metric tons/hr of catalyst per metric ton/hr of product.
14. A process according to claim 13, characterized in that the catalyst circulation rate is 55 metric tons/hr of catalyst per metric ton/hr of product.

15. A process according to claim 1, characterized in that the difference in gas velocities between the reaction zones and the regeneration zones is 0.01 m/s to 0.1 m/s.

16. A process according to claim 1, characterized in that the ratio of gas velocities is 1:1.1 to1:1.3.